

CAPTAIN'S COVE & LI TUNGSTEN  
CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK  
NYSDEC REGISTRY NO. 1-30-046  
USEPA ID# NYD 986 882 860

## QUALITY ASSURANCE PROJECT PLAN



**PREPARED FOR:**

The City of Glen Cove  
Glen Cove, New York



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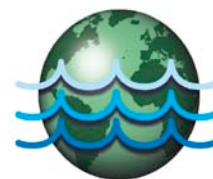
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## 1.0 INTRODUCTION

This quality assurance project plan (QAPP) has been developed for future intrusive work that will penetrate the soil cover or encounter/disturb remaining contamination present at the Captain's Cove and Li Tungsten Sites in Glen Cove, New York. This work includes the excavation of test pits, completion of soil borings and other redevelopment activities. Specifically, this QAPP specifies the objectives, functional activities, methods, and quality assurance / quality control (QA/QC) requirements associated with air monitoring, soil screening, soil sample collection and laboratory analysis during site redevelopment. The purposes of these characterization activities are to protect the health and safety of onsite personnel and to support waste disposition decisions. The QAPP follows the general requirements detailed in DER-10, Section 2 and EPA QA/R-5, and was developed to accompany, and be in accordance with, the following documents:

- *Site Management Plan for Captain's Cove Site* (Dvirka and Bartilucci, June 2010, referred to herein as the Captain's Cove SMP;
- *Site Management Plan for Li Tungsten Site, Glen Cove, NY* (Dvirka and Bartilucci, May 2012), referred to herein as the Li Tungsten SMP;
- *Radiation Monitoring Plan for Captain's Cove & Li Tungsten, City of Glen Cove, Nassau County, New York* (PWGC, September 2012), referred to herein as the RMP; and
- *Excavation Work Plan for Bulkhead Test Pits at Captain's Cove & Li Tungsten, City of Glen Cove, Nassau County, New York* (PWGC, October 2012), referred to herein as the EWP, or future associated Excavation Work Plans.

## 2.0 PROJECT ORGANIZATION

The characterization and screening efforts defined in the RMP and EWP referenced above will be coordinated by PWGC on behalf of the City of Glen Cove, New York. The following text identifies the responsibilities of various organizations supporting redevelopment of the Captain's Cove and Li Tungsten sites:

- The New York State Department of Environmental Conservation (NYSDEC) will be responsible for reviewing and approving this QAPP, coordinating approval of requested modifications, and providing guidance on regulatory requirements.
- PWGC Senior Vice President (Jim Rhodes) will provide technical expertise for review of the QAPP and any subsequent reports. The Senior Vice President will act as the project Quality Assurance Manager and Site Health and Safety Manager (HSM).
- Ellis Koch C.P.G., Inc. President (Ellis Koch) or another qualified representative of the developer, RXR Glen Isle Partners, LLC (RXRGIP) will be responsible for the day-to-day project management and task leadership for the planning and implementation of redevelopment activities.
- PWGC Field Hydrogeologist (Ryan Morley or another qualified PWGC representative) will be responsible for ensuring that the requirements of this QAPP are implemented; and will perform air monitoring, soil screening and waste confirmation sampling (if needed) in

accordance with the SMPs and EWP. The PWGC Field Hydrogeologist will act as the Site Health and Safety Officer (HSO).

- DAQ, Inc. Health Physicist (Dennis Quinn) will act as the Health Physicist Field Technician (HPFT), and will perform gamma radiation screening in accordance with the RMP.
- A New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP) certified laboratory will perform required analyses and reporting for waste confirmation samples.
- Subcontractors will perform excavating, drilling, soil stockpile management and surveying at the direction of PWGC in accordance with the SMPs, RMP and EWP.

### **3.0 FIELD SCREENING & MONITORING**

#### **3.1 AIR MONITORING**

Air monitoring will be performed by the site HSO in accordance with the Community Air Monitoring Plan presented in Section A-13 of the EWP. During excavation activities, volatile organic compounds (VOCs) will be monitored with a photoionization detector (PID) and an aerosol monitor will be used to detect fugitive respirable dust. Air monitoring equipment will be calibrated in accordance with Section 9.0 of this QAPP.

#### **3.2 SOIL SCREENING**

Soil screening for VOCs, lead and arsenic will be performed by the PWGC Field Hydrogeologist in accordance with the EWP and SMPs. Soil screening for gamma radiation will be performed by the HPFT in accordance with the RMP and SMPs. Should VOCs, lead, arsenic or gamma radiation be detected above project screening levels, the associated soil will be segregated and stockpiled in accordance with the SMPs, EWP and RMP. Segregated soil will be further analyzed in accordance with Section 4.0 of this QAPP.

Soil screening equipment will be calibrated in accordance with Section 9.0 of this QAPP.

### **4.0 LABORATORY ANALYSIS**

Characterization samples will be collected for segregated soil that exceeded project screening levels for VOCs, lead, arsenic or gamma radiation, in accordance with the SMPs, RMP and EWP. Soil samples will be submitted to a NYSDOH ELAP certified laboratory. The selected laboratory will also be approved for solid and hazardous waste under the aforementioned program.

Analysis will conform to NYSDEC Analytical Services Protocol (ASP). Category B data deliverables will be submitted for all samples analyzed. The Category B Data deliverables will be provided to the NYSDEC electronically in PDF format.

In accordance with Section 7.1 of the SMPs, soil sample analytical results will be compared to the NYSDEC Part 375 Restricted Use-Residential Use Soil Cleanup Objectives (SCO).

This comparison will evaluate whether it is appropriate to spread the analyzed soil onsite, or whether offsite disposal is required.

Analytical methods, preservation, container requirements, and holding times are shown in **Table 1**.

**TABLE 1  
ANALYTICAL METHODS**

Sample Matrix	Sample Designations	Sample Type	Parameters	Method	Sample Preservation	Holding Time	Sample Container	Laboratory
Soil	TBD*	Grab	VOCs	EPA-8260	Cool to 4°C	14 days	2 oz. wide mouth glass	To be determined
Soil	TBD*	Grab	RCRA Metals	EPA-6010	Cool to 4°C	180 days (26 days for Hg)	4 oz. wide mouth glass	To be determined
Soil	TBD*	Grab	Gamma Spec (Uranium and Thorium decay chains)	EML-HASL-300 or equivalent	N/A	180 days	500 ml wide mouth plastic	To be determined

**NOTES:** TBD\* – To be determined based upon field screening results. Sample designations will be in accordance with Section 6.0 of this QAPP.

## 5.0 FIELD/LABORATORY DATA CONTROL REQUIREMENTS

Quality Control (QC) procedures must be followed in the field and at the laboratory to ensure that reliable data are obtained. When performing soil sampling activities, care shall be taken to prevent the cross-contamination of sampling equipment, sample bottles, and other equipment that could compromise sample integrity. The procedures specified in Section 7.5.4 of the SMPs shall be followed during soil sampling activities. QC samples to be collected in the field are provided in **Table 2**.

**TABLE 2  
FIELD/LABORATORY QC REQUIREMENTS**

Sample Type	Frequency	Purpose	# Soil Samples
Field Duplicate	One duplicate sample, or One per 20 samples of the same matrix.	To evaluate the precision of the field sampling and laboratory analyses.	TBD*
Equipment Blank	One per type of sampling method used for each batch of sampling equipment. Equipment blanks are collected in the field using analyte-free water supplied by the laboratory.	To assess the cleanliness of the sampling equipment and the effectiveness of the decontamination process.	TBD*
Trip Blank	One VOA (volatile organic analysis) trip blank per sample cooler that contains site samples to be analyzed for VOCs.	To detect VOC cross-contamination during sample shipping and handling.	TBD*

Method Blank	One per 20 samples of same matrix	To document contamination resulting from the analytical process.	TBD*
Matrix Spike	One per 20 samples of same matrix	It is used to measure the efficiency of all steps of the sampling and analytical methods in recovering the target analytes from the sample. It is a sample spiked with known quantities of analytes and subjected to the entire analytical procedure.	TBD*
Matrix Spike Duplicate	One per 20 samples of same matrix.	To reinforce the matrix spike information. It is a second aliquot of the same sample as the matrix spike.	TBD

**Notes:** TBD\* – To be determined based upon field screening results.

## 6.0 SAMPLE IDENTIFICATION

Each soil sample container will have a label of durable material affixed to it with a set of information relating to the individual sample characteristics (i.e., test pit soil or stockpile soil), in accordance with Section 7.2.1 of the SMPs. The required information consists of Sample ID, Location, Depth, Date, Time, and Matrix. The name(s) of the sampler(s) shall also be included on each sample label. If more than one container is used, then the container number for that sample should be provided on the label (e.g., #1 of 4).

In accordance with the SMPs, RMP and EWP, sample frequency, locations, depths and nomenclature will be based upon field screening results.

## 7.0 CHAIN-OF-CUSTODY, SAMPLE PACKAGING, AND SHIPMENT

For each day of sampling, a chain-of-custody sheet will be completed and submitted to the laboratory. A copy of the chain-of-custody sheet will also be retained by the PWGC Field Hydrogeologist. The chain-of-custody sheet will include the project name, the sampler's signature, sampling locations, the date and time of sample collection, and analysis parameters requested.

Samples must be packaged and shipped in a manner that maintains sample preservation requirements during transport (i.e., ice to keep samples cool until receipt at the laboratory), ensures that sample holding times can be achieved by the laboratory, and ensures that the samples cannot be tampered with.

If a commercial carrier ships samples, a bill of lading (waybill) may be used as documentation of sample custody. Receipts for bills of lading and other documentation of shipment shall be maintained as part of the permanent custody documentation. Commercial carriers are not required to sign the chain-of-custody as long as it is enclosed in the shipping container and the evidence tape (custody seal) remains in place.

## 8.0 DATA USABILITY AND VALIDATION

The main purpose of the data is for use in deciding whether it is appropriate to reuse the soil at the site, or if offsite disposal is required. Based upon this data use, usability and validation will be performed as described below. Complete data packages will be archived in the project files, and if deemed necessary additional validation can be performed using procedures in the following sections.

### **8.1 DATA USABILITY AND VALIDATION REQUIREMENTS**

Data usability and validation are performed on analytical data sets primarily to confirm that sampling and chain-of-custody documentation are complete, that sample numbers can be tied to the specific sampling locations, that samples were analyzed within the required holding times, and that the analyses met the data quality requirements specified in the sampling plan.

### **8.2 DATA USABILITY AND VALIDATION METHODS**

The PWGC Field Hydrogeologist, or designee, will complete a data usability evaluation for the data collected during site redevelopment activities. A data usability summary report (DUSR) will be prepared following guidance in DER-10, Appendix 2B.

Independent third party data validation will be performed on one sample from each sample delivery group (SDG). Data validation will be performed by a qualified subcontractor independent of the project.

The DUSR and third party validation will be submitted with the associated data package to the NYSDEC.

## **9.0 FIELD EQUIPMENT CALIBRATION**

Non-radiation monitoring equipment (i.e., XRF, PID & dust meters) will be inspected and approved by the PWGC Field Hydrogeologist before being used; and will be initially calibrated to factory specifications, if required. Subsequently, non-radiation monitoring equipment will be calibrated following manufacturer recommended schedules. Daily field response checks and calibrations will be performed as necessary following manufacturer standard operating procedures. Equipment calibrations will be documented by the PWGC Field Hydrogeologist in the field logbook.

Radiation monitoring equipment will be inspected and approved by the HPFT before being used. Radiation monitoring equipment will be calibrated and source checked in accordance with Section 2.3 of the RMP. Radiation equipment calibrations and source checks will be documented by the HPFT in the field logbook.

## **10.0 MANAGEMENT OF REDEVELOPMENT DERIVED WASTE**

Waste materials generated from field operations may consist of excavated soil and miscellaneous solid materials such as personal protective equipment (PPE) and supplies. RXRGIP will arrange for the disposition of waste generated during field operations. Waste transportation and disposal will be carried out in accordance with Section 3.1.3 of the SMPs.

Excavated soil will be handled and managed in accordance with the SMPs, RMP and EWP. Characterization samples will be collected if soil exceeds project screening levels for VOCs, lead, arsenic or gamma radiation. The associated analytical results will be used to determine if spreading the soil onsite is appropriate, or if offsite disposal is required.

Following receipt of the analytical results, recommendations for disposition of excavated soil will be provided to the NYSDEC.

#### **11.0 FIELD DOCUMENTATION**

Documentation will take place on either appropriate file forms or in a site logbook. Permanent black or blue ink will be used to record information in the logbook. Errors in field documentation will be lined through, initialed, dated, and corrected. Forms will be kept by the Field Hydrogeologist and HPFT during field activities. Field activities will be documented in the field logbook. The logbook will contain waterproof pages that are consecutively numbered, and will be permanently bound with a hard cover. Upon completion of daily activities, any unused portions of pages will be lined-through and initialed.

The primary purpose of the field logbook is to contain a record of daily field activities and to provide descriptions of each activity. Entries in the field logbook will be recorded and dated by the person making the entry.